Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	45	Chien Kenneth	US-PGPUB; USPAT; EPO; JPO; DERWENT	NEAR	ON	2005/05/12 15:57
L2	1	(ikeda NEAR yasuhiro) and Kenneth	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/05/12 15:48
L3	202	phospholamban	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/05/12 15:51
L4	50199	gene therapy	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2005/05/12 15:49
L5	231497	cardiac heart cardio$5	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/05/12 15:50
L6	69	l3 and l4 and l5	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/05/12 15:50
L7	5	l6 and phospholamban.clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/05/12 15:52
L8	8	phospholamban mutant	US-PGPUB; USPAT; EPO; JPO; DERWENT	NEAR	ON	2005/05/12 15:56
L11	5	l1 and l3	US-PGPUB; USPAT; EPO; JPO; DERWENT	NEAR	ON	2005/05/12 15:57
L12	9	(US-20020032167-$ or US-20030050259-$ or US-20030166593-$ or US-20040191802-$ or US-20040121942-$).did. or (US-6174871-$ or US-6416510-$ or US-6716196-$).did. or (WO-200025804-$).did.	US-PGPUB; USPAT; DERWENT	OR	ON	2005/05/12 15:58

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> d his

     (FILE 'HOME' ENTERED AT 15:25:44 ON 12 MAY 2005)

     FILE 'MEDLINE, CANCERLIT, CAPLUS, SCISEARCH' ENTERED AT 15:26:01 ON 12
     MAY 2005
L1          4051 S PHOSPHOLAMBAN
L2        102414 S GENE THERAPY
L3       1996152 S HEART OR CARDIAC OR CARDIO?
L4            26 S L1 (L) L2 (L) L3
L5            18 DUP REM L4 (8 DUPLICATES REMOVED)
L6            18 SORT L5 PY
                 E KENNETH CHIEN?/AU
                 E KENNETH R? C?/AU
L7             0 S CHIEN(L)KENNETH
                 E KENNETH/AU
L8       3366882 S E
                 E IKEDA YASUHIRO?/AU
L9           146 S E4
L10            0 S L9 AND L1
L11          256 S L1 AND MUTANT
L12            8 S L11 AND L2
L13            5 DUP REM L12 (3 DUPLICATES REMOVED)
L14            5 SORT L13 PY

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L14 ANSWER 4 OF 5 MEDLINE on STN
AN 2002402556 MEDLINE
TI Chronic suppression of heart-failure progression by a pseudophosphorylated **mutant** of **phospholamban** via in vivo cardiac rAAV gene delivery.
SO Nature medicine, (2002 Aug) 8 (8) 864-71. Electronic Publication: 2002-07-22.
Journal code: 9502015. ISSN: 1078-8956.
AU Hoshijima Masahiko; Ikeda Yasuhiro; Iwanaga Yoshitaka; Minamisawa Susumu; Date Moto-o; Gu Yusu; Iwatate Mitsuo; Li Manxiang; Wang Lili; Wilson James M; Wang Yibin; Ross John Jr; Chien Kenneth R
AB The feasibility of **gene therapy** for cardiomyopathy, heart failure and other chronic cardiac muscle diseases is so far unproven. Here, we developed an in vivo recombinant adeno-associated virus (rAAV) transcoronary delivery system that allows stable, high efficiency and relatively cardiac-selective gene expression. We used rAAV to express a pseudophosphorylated **mutant** of human **phospholamban** (PLN), a key regulator of cardiac sarcoplasmic reticulum (SR) Ca(2+) cycling in BIO14.6 cardiomyopathic hamsters. The rAAV/S16EPLN treatment enhanced myocardial SR Ca(2+) uptake and suppressed progressive impairment of left ventricular (LV) systolic function and contractility for 28-30 weeks, thereby protecting cardiac myocytes from cytopathic plasma-membrane disruption. Low LV systolic pressure and deterioration in LV relaxation were also largely prevented by rAAV/S16EPLN treatment. Thus, transcoronary gene transfer of S16EPLN via rAAV vector is a potential therapy for progressive dilated cardiomyopathy and associated heart failure.

L14 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:197720 CAPLUS
DN 140:314781
TI Chronic **phospholamban** inhibition prevents progressive cardiac dysfunction and pathological remodeling after infarction in rats
SO Journal of Clinical Investigation (2004), 113(5), 727-736
CODEN: JCINAO; ISSN: 0021-9738
AU Iwanaga, Yoshitaka; Hoshijima, Masahiko; Gu, Yusu; Iwatate, Mitsuo; Dieterle, Thomas; Ikeda, Yasuhiro; Date, Moto-o; Chrast, Jacqueline; Matsuzaki, Masunori; Peterson, Kirk L.; Chien, Kenneth R.; Ross, John, Jr.
AB Ablation or inhibition of **phospholamban** (PLN) has favorable effects in several genetic murine dilated cardiomyopathies, and we showed previously that a pseudophosphorylated form of PLN **mutant** (S16EPLN) successfully prevented progressive heart failure in cardiomyopathic hamsters. In this study, the effects of PLN inhibition were examined in rats with heart failure after myocardial infarction (MI), a model of acquired disease. S16EPLN was delivered into failing hearts 5 wk after MI by transcoronary gene transfer using a recombinant adeno-associated virus (rAAV) vector. In treated (MI-S16EPLN, n = 16) and control (MI-saline, n = 18) groups, infarct sizes were closely matched and the left ventricle was similarly depressed and dilated before gene transfer. At 2 and 6 mo after gene transfer, MI-S16EPLN rats showed an increase in left ventricular (LV) ejection fraction and a much smaller rise in LV end-diastolic volume, compared with progressive deterioration of LV size and function in MI-saline rats. Hemodynamic measurements at 6 mo showed lower LV end-diastolic pressures, with enhanced LV function (contractility and relaxation), lowered LV mass and myocyte size, and less fibrosis in MI-S16EPLN rats. Thus, PLN inhibition by in vivo rAAV gene transfer is an effective strategy for the chronic treatment of an acquired form of established heart failure.

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FILE 'MEDLINE, CANCERLIT, CAPLUS, SCISEARCH' ENTERED AT 15:26:01 ON 12 MAY 2005

L1 4051 S PHOSPHOLAMBAN
L2 102414 S GENE THERAPY
L3 1996152 S HEART OR CARDIAC OR CARDIO?
L4 26 S L1 (L) L2 (L) L3
L5 18 DUP REM L4 (8 DUPLICATES REMOVED)
L6 18 SORT L5 PY
E KENNETH CHIEN?/AU
E KENNETH R? C?/AU
L7 0 S CHIEN(L)KENNETH
E KENNETH/AU
L8 3366882 S E
E IKEDA YASUHIRO?/AU
L9 146 S E4
L10 0 S L9 AND L1

=> d an ti so au ab pi l6 7 10 14

L6 ANSWER 7 OF 18 MEDLINE on STN
AN 2002402556 MEDLINE
TI Chronic suppression of heart-failure progression by a pseudophosphorylated mutant of phospholamban via in vivo cardiac rAAV gene delivery.
SO Nature medicine, (2002 Aug) 8 (8) 864-71. Electronic Publication: 2002-07-22.
Journal code: 9502015. ISSN: 1078-8956.
AU Hoshijima Masahiko; Ikeda Yasuhiro; Iwanaga Yoshitaka; Minamisawa Susumu; Date Moto-o; Gu Yusu; Iwatate Mitsuo; Li Manxiang; Wang Lili; Wilson James M; Wang Yibin; Ross John Jr; Chien Kenneth R
AB The feasibility of **gene therapy** for **cardiomyopathy**, **heart** failure and other chronic **cardiac** muscle diseases is so far unproven. Here, we developed an in vivo recombinant adeno-associated virus (rAAV) transcoronary delivery system that allows stable, high efficiency and relatively **cardiac** -selective gene expression. We used rAAV to express a pseudophosphorylated mutant of human **phospholamban** (PLN), a key regulator of **cardiac** sarcoplasmic reticulum (SR) Ca(2+) cycling in BIO14.6 **cardiomyopathic** hamsters. The rAAV/S16EPLN treatment enhanced myocardial SR Ca(2+) uptake and suppressed progressive impairment of left ventricular (LV) systolic function and contractility for 28-30 weeks, thereby protecting **cardiac** myocytes from cytopathic plasma-membrane disruption. Low LV systolic pressure and deterioration in LV relaxation were also largely prevented by rAAV/S16EPLN treatment. Thus, transcoronary gene transfer of S16EPLN via rAAV vector is a potential therapy for progressive dilated **cardiomyopathy** and associated **heart** failure.

L6 ANSWER 10 OF 18 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:185693 CAPLUS
DN 136:242914
TI High efficiency cardiac gene transfer with adeno-associated virus vectors and uses in gene therapy for cardiac diseases
SO U.S. Pat. Appl. Publ., 12 pp.
CODEN: USXXCO
IN Chien, Kenneth R.; Hoshijma, Masahiko; Ross, John; Ikeda, Yasuhiro
AB The present invention discloses methods for the delivery of genes to improve cardiac function including the use of adeno-associated virus (AAV) vectors, isolation of the heart from systemic circulation, and induction of hypothermia/cardiac arrest. The methods result in high-level, long-term expression of reporter genes and enhanced cardiac function in hamster models of heart disease. In particular, the gene expression via AAV vectors is highly restricted to cardiac muscle and maintained long-term, with no sign of myocardial inflammation. Transfer of a gene for a dominant neg. form of phospholamban enhanced the contractility in the heart of hamsters, suppressing heart failure by enhancing the function of sarcoplasmic reticulum calcium ATPase 2.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002032167	A1	20020314	US 2001-954571	20010911
	CA 2422078	AA	20020321	CA 2001-2422078	20010911
	WO 2002022177	A2	20020321	WO 2001-US29103	20010911
	WO 2002022177	A3	20021128		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2001091063	A5	20020326	AU 2001-91063	20010911
	EP 1317289	A2	20030611	EP 2001-971139	20010911
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				

L6 ANSWER 14 OF 18 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:606556 CAPLUS
DN 141:135179
TI Recombinant adeno-associated virus expressing RNAi for RNA interference in gene therapy of cardiovascular diseases and cancers
SO PCT Int. Appl., 53 pp.
CODEN: PIXXD2
IN Wu, Xiaobing; Dong, Xiaoyan; Ma, Xin; Lu, Xiaochun; Hou, Yunde
AB The invention relates to a series of recombinant adeno-associated virus that mediates RNA interference (RNAi) for **gene therapy** of **cardiovascular** diseases and cancers. The recombinant AAV vectors contain a promoter from U6 snRNA or H1RNA gene to control siRNA expression specific to therapeutic target genes. The targeted genes include those for **phospholamban**, angiotensin receptor 1, VEGF, cyclin D1, telomerase RNA, and TNFα, for the treatment of **heart** diseases, cancer, and hypertension. The feasibility of the method is demonstrated using pSNAV/U6/Luc expressing short hairpin-loop interference RNA specific to luciferase gene. The RNAi with a short hairpin-loop of luciferase gene is shown to have 50% and 70% inhibitory activity of luciferase in pMAMneoLuc co-transfected BHK-21 cells and luciferase stable cell lines resp.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004063380	A1	20040729	WO 2003-CN939	20031107
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				